



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,988	03/11/2004	Davis V. Yates	1026.15	5164
22497	7590	07/17/2006	EXAMINER	
LARSON AND LARSON 11199 69TH STREET NORTH LARGO, FL 33773			DRODGE, JOSEPH W	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,988

Applicant(s)

YATES, DAVIS V.

Examiner

Joseph W. Drodge

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0604</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1723

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4,6-10,13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahn et al patent 3,842,448 in view of Kraver patent 5,741,397. Kahn discloses a system for recycling dental unit water comprising water reservoir (tank 16 or 30), pump 36, decontaminator unit (secondary water filter 56 that removes solid contaminant, not previously removed), waterlines 10,14,34,40,48,50,58 and 62, etc.

The claims differ in requiring the tank having water level sensors, operably connected with a microprocessor. Kahn discloses handling of overflow from the tanks to prevent water backing up into the system inlet pipe (column 4, lines 25-41). Kraver teaches a pair of water level sensors for controlling disposal of overflow in a dental unit water collection tank (column 4, line 66-column 6, line 22), with such sensors coupled to a microprocessor-containing controller for handling the overflow and alarming of

Art Unit: 1723

abnormal conditions (column 4, lines 58-65 with column 5, lines 22-25). It would have been obvious to one of ordinary skill in the art to have incorporated the water levels sensors and microprocessor control of Kraver into the Kahn system, as safety features to more assuredly prevent back-up of collected water into the system inlet pipes and enable alerting of personnel to undertake corrective actions to repair or replace defective parts.

Recitation of components of the dental unit itself including components of dental block, air switch, means for diverting air or water, suction lines and so forth are couched in terminology indicating that these are mere intended use of the water treatment and recirculation system and are thus accorded little patentable weight.

For claim 3, also see Kahn features of drain 24, drain valve 22 or 54 and valve 42 or 44 intermediate tank and pump.

Claims 2,6-10,13 and 14 largely recite additional details for the intended end use applications of the recirculating system and are accorded little additional patentable weight.

For other dependent claims, Kahn also discloses for claim 4, decontaminating unit 56 being between pump 36 and line to dental unit 58, for claim 7, a valve 18 being between dental unit and tank, and for claims 8 and 14, the number of dental unit components (one) being equal to the number of inlets to the tank (one).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kahn in view of Kraver as applied to claim 1 above, and further in view of Folkenroth et al patent 4,245,989. Claim 5 also requires at least two of the valves being 3-way valves. However, Folkenroth teaches at least one such valve (valve 192) in a dental unit water recycling system at column 9, lines 45-55, with intake manifold 46 also functioning as a three-way valve (column 6, lines 61-67). It would have been also obvious to have utilized the three-way valve of Folkenroth, in the system of Kahn, to enable diversion of water to either a holding tank or directly to a filter, depending upon system water demand requirements.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahn in view of Kraver as applied to claim 1 above, and further in view of Chilibeck patent 6,692,636 and Allen et al patent 5,422,014. Claims 11-12 also differ in requiring a sensor associated with decontaminating unit for detecting level of decontaminant and the decontaminating unit to comprise a chlorinator, respectively. Chilibeck teaches such chlorinator in a dental unit water recycling and treating system (column 17, line 58-column 18, line 12) with Allen controlling operation of a chlorinator for controlling amount of decontaminant in any water recirculation system (Abstract). It would have also been obvious to one of ordinary skill to have supplemented the Kahn system with such chlorinator and chlorine level sensor taught by Chilibeck and Allen respectively, so as to remove bacteria and other microorganisms from the water being recirculated back to the dental instruments, and using an optimum amount of decontaminant.

Art Unit: 1723

Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahn et al patent 3,842,448 in view of Kraver patent 5,741,397 and Folkenroth patent 4,245,989.

Kahn discloses a system for recycling dental unit water comprising water reservoir (tank 16 or 30), pump 36, decontaminator unit (secondary water filter 56 that removes solid contaminant, not previously removed), waterlines 10,14,34,40,48,50,58 and 62, etc.

The claims differ in requiring the tank having water level sensors, operably connected with a microprocessor and source of electrical current. Kahn discloses handling of overflow from the tanks to prevent water backing up into the system inlet pipe (column 4, lines 25-41). Kraver teaches a pair of water level sensors for controlling disposal of overflow in a dental unit water collection tank (column 4, line 66-column 6, line 22), with such sensors coupled to a microprocessor-containing controller for handling the overflow and alarming of abnormal conditions (column 4, lines 58-65 with column 5, lines 22-25) and column 4, lines 57-59 teaching electrical source. It would have been obvious to one of ordinary skill in the art to have incorporated the water levels sensors, source of electrical current and microprocessor control of Kraver into the Kahn system, as safety features to more assuredly prevent back-up of collected water into the system inlet pipes and enable alerting of personnel to undertake corrective actions to repair or replace defective parts.

Art Unit: 1723

Claims 15-20 also differ in requiring at least one of the valves to be a three-way valve. However, Folkenroth teaches at least one such valve in a dental unit water recycling system at column 9, lines 45-55. It would have been also obvious to have utilized the three-way valve of Folkenroth, in the system of Kahn, to enable diversion of water to either a holding tank or directly to a filter, depending upon system water demand requirements.

For claim 16, also see Kahn features of drain 24, drain valve 22 or 54 and valve 42 or 44 intermediate tank and pump.

Claims 17-20 merely recite additional details for the intended end use applications of the recirculating system and are accorded little additional patentable weight.

Recitation of components of the dental unit itself including components of dental block, air switch, means for diverting air or water, suction lines and so forth are couched in terminology indicating that these are mere intended use of the water treatment and recirculation system and are thus accorded little patentable weight.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chandler publication US2003/0036033 is of interest for recitation of an arrangement of dental handpieces that may be coupled to a manifold and water treatment and recirculation line. Holland patent 5,667,382 is directed to a water recirculation arrangement for dental effluent.

Art Unit: 1723

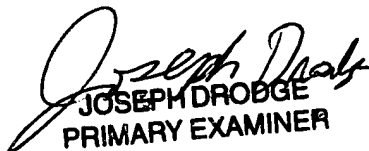
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

July 10, 2006


JOSEPH DRODGE
PRIMARY EXAMINER